

YATAGAI et al  
Serial No. 10/815,927

Atty Dkt: 4059-21  
Art Unit: 3611

### **REMARKS/ARGUMENTS**

Reexamination of the captioned application is respectfully requested.

#### **A. SUMMARY OF THIS AMENDMENT**

By the current amendment, Applicants basically:

1. Amend independent claim 23 to include limitations of dependent claim 27.
2. Cancel claim 27 without prejudice or disclaimer.
3. Add new claims 50 – 53.
4. Respectfully traverse all prior art rejections.

#### **B. THE NEW CLAIMS**

New dependent claim 50, dependent upon allowable dependent claim 33, concerns, e.g., more particulars of the connections of the supercharger and intercooler. Support for new dependent claim 33 resides throughout the specification and drawings, such as page 25, for example.

New dependent claims 51 – 53 resemble allowable claims 32 – 33 and new dependent claim 50, respectively, but depend from independent claim 36 rather than independent claim 23.

#### **C. PATENTABILITY OF THE CLAIMS**

Claims 23-31 and 34-49 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Patent 6,227,323 to Ashida in view of U.S. Patent 3,786,890 to Shank. All prior art rejections are respectfully traversed for at least the following reasons.

All independent claims clearly specify that the engine of the claimed snowmobile is a four cycle engine. Not only is the four cycle characteristic reflected in all claims, but

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in the original title as well ("Snowmobile Four-Cycle Engine Arrangement"). On the other hand, both applied references, Ashida (USP 6,227,323) and Shank (USP 3,786,890), are clearly snowmobiles with **two-cycle** engines.

That Ashida pertains to a two cycle engine is evident from numerous passages, several of which are quoted below:

- "Two-cycle internal combustion engines are the most common types of engine used to power snowmobiles." (col. 1, lines 15 to 16)
- "As is well known in the art of two-cycle engines," (col. 1, line 18),
- "The engine 36 preferably operates on a two-cycle principle" (col. 3, lines 5 to 6).

Similarly, Shank is confined to a two cycle engine. Shank states, e.g.,:

- "A muffler assembly for a three-cylinder two-cycle snowmobile engine is shown." (ABSTRACT),
- "This invention . . . relates to the construction of a combined muffler and exhaust header assembly designed for connection to the exhaust ports of a three-cylinder two-cycle snowmobile engine" (col. 1, lines 6 to 11)
- "It is well known in the art that the type of exhaust system selected can significantly affect two-cycle engine performance." (col. 1, lines 24 to 26)
- "I have designed a muffler system for a three-cylinder two-cycle engine that will enhance performance through the utilization of pulse charging while at the same time providing substantial noise attenuation." (col. 1, lines 56 to 59), etc.

Thus, both Ashida and Shank are confined to **two-cycle** snowmobile engines.

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There are significant technical differences between four-cycle engine and two-cycle engine, especially for snowmobiles. For example, a four-cycle engine is larger in size than a two-cycle engine. For instance, a four-cycle engine requires such items as an oil pan and an oil pump. Given its larger size, it is more difficult to equip a four-cycle engine with accessories and still maintain without also significantly expanding the engine compartment. So to allege interchangeability of two and four cycle engines is disingenuous and ignores the complex reality of overall engine compartment design and positioning of components and/or accessories within an engine compartment.

The Office Action correctly admits that Ashida's drive system lacks a supercharger. To remedy Achida's lack of a supercharger, the Office Action alleges that Shank shows a snowmobile with an engine and supercharger. The portion of Shank that may potentially be pertinent to the topic of a supercharger seems to be col. 4. In the column 4 passage, Shank states that "The tuned pipe may be designed to provide both scavenging and supercharging." (col. 4, lines 8 to 9), and "the tuned pipe can be used to generally enhance two-cycle engine output over a selected, relatively narrow RPM range. The tuned pipe is designed to provide a back pressure wave that reaches the exhaust port at correct time to supercharge the fresh charge carried by the cylinder" (col. 4, lines 10 to 15).

However, Shank's explanations are nothing but merely a general explanation of an inertia charge utilizing an exhaust pulse scavenging which is commonly practiced in an operation of a two-cycle engine. This exhaust pulse scavenging phenomena does not even suggest the supercharger as presently claimed.

Thus, the existing record is devoid of both disclosure and suggestion of a snowmobile with a four-cycle engine disposed with a supercharger. Accordingly,

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contrary to the allegations of the Office Action, the claims are quite unobvious over Ashida in view of Shank.

**D. MISCELLANEOUS**

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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